Awards and Honors

The knowledge, innovation, and creativity of our researchers make NREL the nation's premier laboratory for research and development in renewable energy and energy efficiency. These awards and honors underscore their contributions and their dedication to science and technology and to NREL's mission.

National Bioenergy Center Wins Technology Transfer Awards

The Federal Laboratory Consortium (FLC) honored NREL's National Bioenergy Center with two Notable Technology Development awards for the center's work on an integrated biorefinery and on a related process for deriving chemicals from biomass. FLC recognizes federal laboratories and agencies for excellence in transferring government-sponsored technologies to the public and private sectors.

One award credits NREL for signing a $7.7 million Cooperative Research and Development Agreement with DuPont to jointly develop, build, and test a biorefinery pilot process that will convert the entire corn plant—kernels, leaves, and stalks—into ethanol, chemicals, and electric power. DuPont leads a team that includes NREL, Diversa Corporation, Michigan State University, and Deere & Co.

NREL was also honored for a highly efficient, single-phase process that converts cellulosic biomass—such as grain hulls and other agricultural residues—into pure streams of lignin, cellulose, and dissolved sugars. These are valuable and useful materials for the fuels, chemicals, food, packaging, and pulp and paper industries. NREL secured a worldwide exclusive technology license, shared between UTEK and Xethanol Corporation, and is working with Xethanol as the company develops and commercializes the new technology. ■

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NREL retirees Tom Milne, Dick Crandall, and Dick Ahrenkiel (left to right) have received the honorary title of emeritus.

Three NREL Retirees Honored with Emeritus Designation

In 2006, Thomas R. Milne, Richard Crandall, and Richard Ahrenkiel became the first three NREL researchers to receive the honorary title of emeritus. NREL presents the honorary title to distinguished retirees in recognition of their extensive contributions. Though the three are retired, they continue to share their knowledge and expertise with the laboratory.

Before being appointed emeritus researcher, Tom Milne was a visiting scientist at NREL's National Bioenergy Center. Milne, who came to NREL in 1977 and retired in 1996, is known for his work on the thermochemical conversion of biomass using molecular beam mass spectrometry. He is credited with developing the fundamental knowledge underpinning advanced thermochemical technologies.

Emeritus Researcher Dick Crandall, who worked at NREL from 1987 to 2006, has been a leader in developing high-performance, thin-film photovoltaic (PV) devices. He led the PV community in developing the tools needed to understand the electronic activity of disordered material. A proactive mentor, he created NREL's working group on defects in PV materials and brought together scientists from throughout the laboratory.

Emeritus Researcher Dick Ahrenkiel came to NREL in 1981 and retired in 2005. He specializes in measuring and characterizing PV cells and materials, and he is one of the world's most well-known experts in measuring the lifetimes of charge carriers within solar cells. ■

Kazmerski Receives Solar and Materials Awards

Larry Kazmerski, director of NREL's National Center for Photovoltaics, received the World PV Award in May 2006 for his outstanding contributions to the worldwide advancements of PV science and technology. Sponsored by professional organizations from the European, Asian-Pacific Rim, and American PV communities, the award recognizes superior and sustained leadership in solar PV technologies.

Kazmerski also received the Nelson W. Taylor Award in 2006. The Department of Materials Science and Engineering at Pennsylvania State University has been recognizing outstanding achievements and contributions in the field of materials science since 1970. Past awardees include Nobel Prize winners Alan G. MacDiarmid, Richard E. Smalley, and Linus Pauling.

The first scientist hired by NREL for PV research, Kazmerski has published more than 310 journal papers on solar cells, thin films, semiconductor materials and devices, surface and interface analysis, scanning probe microscopy, nanoscale technology, high-temperature superconductivity, and semiconductor defects. An author and editor of four books, he is editor-in-chief of the Elsevier journal *Renewable and Sustainable Energy Reviews*.

Kazmerski is a fellow of the Institute of Electrical and Electronics Engineers, the American Physical Society, and the American Vacuum Society. He has won three R&D 100 awards for novel measurement and characterization devices. Kazmerski was inducted into the National Academy of Engineering in 2005. ■

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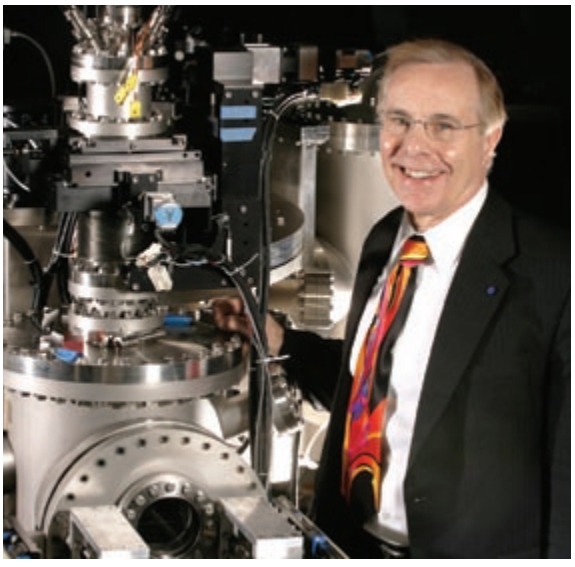

Larry Kazmerski proudly displays the new Silicon Cluster Tool at the Process Development and Integration Laboratory.

PIX14920

Helena Chum

Chum Earns Green Engineering Honor

Helena Chum, group manager of Biorefinery Analysis and Exploratory Research, became the first person to receive the "Individual Trail Blazer" award from HENAAC and *Green Technology Magazine* in October 2006. The award cites her research and development work in bioenergy and renewable hydrogen production. Her work aims to solve the challenges involved in converting the world's vast biomass resources to energy and related products.

HENAAC, formerly the Hispanic Engineer National Achievement Awards Conference, is a nonprofit organization dedicated to promoting careers in science, technology, engineering, and math. Chum was honored as part of the first annual Green Engineering Honors at the October 2006 HENAAC conference.

"Ever since my early research years in my native Brazil, I envisioned bridging the gap between research in the laboratory and technology development—the creation of technology companies and commercialization of the technologies—which leads in turn to economic development," says Chum.

Working with NREL staff, industry, and academia, she has been building that bridge in the United States and in Brazil, thanks to bilateral programs. Since joining the laboratory in 1979, she has also monitored many young women and minorities and hosted a number of Hispanic professionals and Latin American students at NREL. ■

Kutscher Tapped for Solar Energy Award

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Chuck Kutscher

For his outstanding contributions in the research and development of active solar energy systems and solar thermal technologies, NREL's Chuck Kutscher was honored with the Charles Greeley Abbot Award at the 2006 annual conference of the American Solar Energy Society.

"During my 28 years at NREL, I've been fortunate to work on talented teams of solar researchers," says Kutscher. "My past and present colleagues very deservedly share in this award."

Kutscher is a group manager in NREL's Center for Buildings and Thermal Systems. His efforts have included designing a desiccant cooling test laboratory, producing NREL's solar industrial process heat design handbook, developing stretched-membrane parabolic dish solar concentrators, inventing a high-performance heat exchanger, and leading NREL's low-cost solar collector effort. ■